

What is claimed is:

1. An electromotive machine comprising a stator element and a rotor element, wherein the stator element comprises at least one set of N toroidally shaped electromagnetic members, the electromagnetic members arranged along an arc a predetermined distance apart defining a stator arc length, each of the electromagnetic members having a slot, wherein the rotor element comprises a disc adapted to pass through the slots of the electromagnetic members, the disc containing a plurality of permanent magnet members spaced side by side about a periphery thereof and arranged so as to have alternating north-south polarities, the permanent magnet members being sized and spaced such that within the stator arc length the ratio of electromagnetic members to permanent magnet members is N to N+1, and wherein N equals a number of electrical excitation phases applied to the electromagnetic members, and wherein when operating as a motor the electromotive machine is self-starting.

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